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Comprehensive mapping of national school food policies across the European Union plus Norway and Switzerland

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Abstract

Childhood obesity is a major public health challenge in Europe. Schools are seen as an important setting to promote healthy diet and lifestyle in a protected environment and school food-related practices are essential in this regard. To understand what policy frameworks European countries have created to govern these practices, a systematic assessment of national school food policies across the European Union plus Norway and Switzerland ($n = 30$ countries) was carried out. The survey revealed that all 30 countries currently have a school food policy in place; a total of 34 relevant policies were identified, 18 of which were mandatory and the remaining 16 voluntary. Major policy objectives specified were those to improve child nutrition (97% of policies), to help children learn and adopt healthy diet and lifestyle habits (94%) and to reduce or prevent childhood obesity (88%). Most commonly (>90%), the policies offered food-based standards for menu composition, and portion sizes were guided by age-appropriate energy requirements. Lunch and snacks were the most widely addressed mealtimes for almost 90% of all policies examined. Other important areas covered included food marketing to children; the availability of vending services; training requirements for catering staff; and whether nutrition education is a mandatory part of the national curriculum. Evaluation was mentioned in 59% of the school food policies reviewed. Future analyses should focus on evaluating the implementation of these policies and more importantly, their effectiveness in meeting the objectives defined therein. Comparable and up-to-date information along with data on education, attainment and public health indicators will enable a comprehensive impact assessment of school food policies and help facilitate optimal school food provision for all.

Keywords: childhood obesity, guidelines, nutrition, policy, school food, standards

Tackling childhood obesity in Europe

Childhood obesity is a major public health challenge in Europe (EC 2014). Data from the *Childhood Obesity Surveillance Initiative* by the World Health Organization's (WHO) Regional Office for Europe indicate that the number of 6–9 year-old children who are overweight (including those who are obese) climbed from 1 in 4 to 1 in 3 between 2008 and 2010 (Humphreys &

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Fiankan-Bokonga 2013; Wijnhoven *et al*. 2014). Excess bodyweight may acutely compromise a child's quality of life, partly owing to social stigma, and due to its likely persistence into adulthood it increases the risk for conditions such as type 2 diabetes or metabolic syndrome later in life (Poskitt & Edmunds 2008). In addition, overweight and obesity, including related comorbidities, increasingly strain national healthcare budgets and impair economic productivity. Helping children learn healthy diet and lifestyle habits early on is seen as an important primary prevention strategy, and schools are an obvious target setting. Scientific evidence advocates for multicomponent interventions in schools, focused on improving both diet and physical activity (Mozaffarian *et al*. 2012; Langford *et al*. 2014). Specialised educational curricula, trained teachers, supportive school policies, a formal physical education programme, healthy food and beverage options and a parental/family aspect are all included in the most promising approaches. Also of likely benefit are school garden programmes, including nutrition and gardening education and hands-on gardening experiences, as well as fresh fruit and vegetable programmes that provide free fruits and vegetables to students during the school day.

Since 2006, WHO Europe offers a tool to develop corresponding school nutrition programmes (WHO Regional Office for Europe 2006). However, little is known as to the current European school food policy landscape. To close this knowledge gap, the European Commission's (EC) Joint Research Centre has produced a comprehensive overview of national school food policies across the European Union (EU) plus Norway and Switzerland (Storcksdieck genannt Bonsmann *et al*. 2014). The recently adopted *EU Action Plan on Childhood Obesity 2014–2020* (EC 2014) highlights the need for such work and confirms the school setting as being important for child health promotion.

This policy mapping was carried out to support the EC's Directorate General for Health and Consumers and the High Level Group on Nutrition and Physical Activity, hereafter referred to as HLG, in their efforts to curtail the childhood obesity epidemic.

School food policy landscape in Europe

Mapping by Storcksdieck genannt Bonsmann *et al*. (2014) revealed that all 30 countries currently have a national[1] school food policy in place, with half setting mandatory standards and the other half giving voluntary guidance (see Fig. 1 for a distribution map of mandatory and voluntary policies). Major policy objectives included: improving child nutrition (97%), helping children learn and adopt a healthy diet and lifestyle (94%) and reducing or preventing childhood obesity (88%). Lunch and snacks were the most commonly addressed mealtimes at almost 90% of all policies.

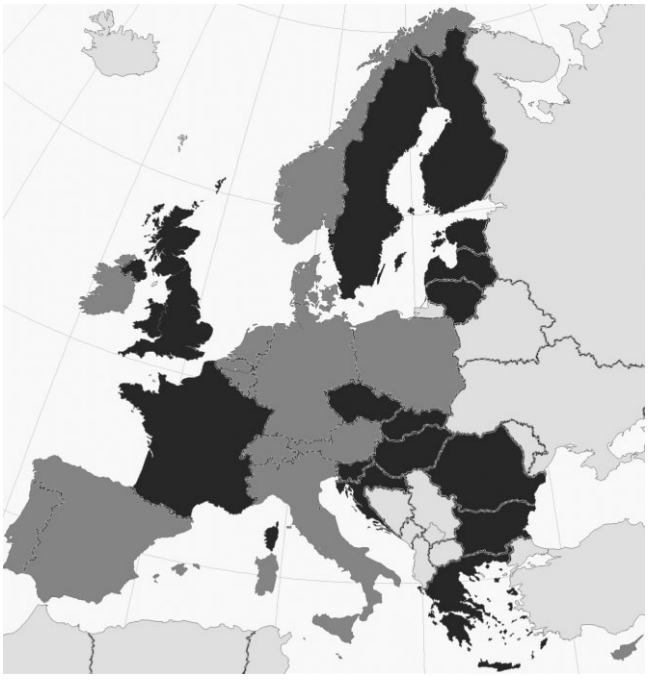

Figure 1 Distribution of mandatory (black) and voluntary (medium grey) school food policies across the EU plus Norway and Switzerland ($n = 34$). Note: Countries in light grey were not considered in the mapping exercise.

Notably, the school policies differed widely in the way their requirements or recommendations were formulated, ranging from basic lists of food (dis-)allowed for sale on school premises (*e.g*. Cyprus and Greece), to extensive collections of guidance documents on how to handle various aspects of the policy such as procurement, catering services and kitchen and dining facilities (*e.g*. UK).

Most often (>90%), the policies defined food-based standards (see Table 1) for consideration when composing menus, such as how often per week to serve dairy products, how much fruit and vegetables to offer daily or what types of beverages to make available. Several policies pointed out, among other aspects, the use of low-fat modes of food preparation or explicitly stated that wholegrain options be included in the food offered. To ensure variation in the dishes served, some countries

[1]Belgium had separate policies for Flanders and Wallonia, and the UK had separate policies for England, Wales, Scotland and Northern Ireland. Hence, the total number of policies assessed was 34.

Table 1 Frequency of food-based standards across school food policies in the EU plus Norway and Switzerland ($n = 34$)

Food-based standards	For lunch (%)	For other mealtimes (%)
Drinks limited to specific types	82	82
Fruit and vegetable provision	79	68
Fresh drinking water	79	68
Soft drinks restricted	71	65
Sweet treats restricted	68	79
Frequency of serving dairy	65	N/A
(Deep-)fried/processed products restricted	65	65
Salt provision restricted	65	53
Frequency of serving non-meat/non-dairy protein	59	N/A
Frequency of serving oil-rich fish	59	N/A
Crisps/savoury snacks restricted	59	74
Frequency of serving (red) meat	53	N/A
Starchy food cooked in fat/oil restricted	53	53

N/A, not applicable.

Table 2 Frequency of energy/nutrient-based standards across school food policies in the EU plus Norway and Switzerland ($n = 34$)

Nutrient-based standards	For lunch (%)	For other mealtimes (%)
Energy	65	44
Fat	59	44
Protein	50	26
Total carbohydrates	47	32
Iron	44	24
Calcium	44	26
Vitamin C	44	29
Fibre	44	24
Sugars	41	35
Sodium	41	24
Folate	38	29
Saturated fatty acids	38	26
Zinc	32	21
Vitamin A	32	21

(*e.g.* France, Germany and Italy) proposed or mandated menu cycles, *e.g.* a period of 20 days, after which a dish may be repeated.

Two-thirds of the school food policies specified energy- and nutrient-based standards, mostly in addition to the food-based standards (Poland was the only country where nutrient-based standards alone were being used). Where these were not explicitly stated, it is fair to assume that they were used to inform the food-based standards provided. Energy and fat were most often referred to (Table 2), thus showing the emphasis on age-appropriate energy intakes to manage healthy growth.

Over and above the food- and nutrient-based standards, four specific areas were highlighted in our report: (1) vending machines; (2) food marketing; (3) nutrition education; and (4) training requirements for catering staff. In 53% of the analysed school food policies, vending machines were either banned from school premises or their offer was restricted in some way to make it easier to make healthier foods choices (Table 3). Food marketing restrictions applied in 76% of the countries. The majority set generic limitations, and a smaller fraction explicitly forbade the marketing of foods and drinks that were high in sugar as well as those that were high in fat or salt. Nutrition education was a mandatory part of national education curricula in 68% of the countries considered, and the remainder mostly acknowledged the importance of the subject or strongly recommended its inclusion. Lastly, 65% of school food policies called for specific training requirements for catering staff.

Table 3 Vending machine standards/guidance in school food policies across the EU plus Norway and Switzerland; countries not listed do not refer to vending machines in their school food policy

Vending machine policy	Country
Vending machines do not exist on or are banned from school premises	Cyprus, Denmark, France, Malta*, Slovakia†, Slovenia
(Certain) unhealthful foods/drinks not allowed in vending machines	Bulgaria, Hungary, Latvia, Lithuania
Vending machines offer in line with healthy eating guidance/standards	Austria, Netherlands, Portugal, Scotland, Wales
(More) healthful options recommended, promoted	Belgium (Flanders province)‡, Italy, Spain

*Banned in all public and most private schools.

†Ban specific to vending machines offering sweets.

‡Balanced options should be cheaper or more widely available.

Evaluating impact

Seeing that all 30 countries had a school food policy in place, the obvious question is: how were the schools actually doing? However, the mapping used was not intended to provide the answer as its aim was to objectively describe the food- and nutrition-related content of national school food policies. What can be said though is that evaluation was covered in 59% of the policies. The top five outcome measures included: food provision in school (56%); take up of school meals (35%); children's nutrition (29%); food consumption at school (24%); and financial viability of services (15%). Con-

sidering that the *EU Action Plan on Childhood Obesity 2014–2020* (EC 2014) has a dedicated Area for Action entitled 'Monitor & Evaluate', more extensive data on the implementation of these policies and their actual impact will hopefully become available in the near future. Tools for standardised data collection do exist – *School Nutrition Index of Programme Effectiveness (SNIPE)* being one example – and this should help facilitate both monitoring and cross-country comparisons.

Concluding remarks

The school food policy mapping by Storcksdieck genannt Bonsmann *et al*. (2014) is the first to comprehensively cover all Member States of the EU plus Norway and Switzerland. All 30 countries currently have a school food policy in place and national standards and recommendations, despite their differences, are in line with the guidance provided by the WHO tool for the development of school nutrition programmes (WHO Regional Office for Europe 2006). Importantly, 4 of the 8 Areas for Action in the recently adopted *EU Action Plan on Childhood Obesity 2014–2020* (EC 2014) clearly relate to observed policy content. The areas in question are: (1) support a healthy start in life; (2) promote healthier environments, especially in schools and pre-schools; (3) make the healthy option the easier option; and (4) restrict marketing and advertising to children.

Future investigations into the possible associations between different types and content of school food policy, as well as rates of childhood overweight/obesity and other parameters of public health interest, can use the mapping report as a starting point. Ideally, the overview will help policy makers learn from one another about school food policy options and in doing so move towards best practice in the context of widely differing cultures. At the same time, this map could aid researchers in investigating potential links between school food policies and public health, thus giving an indication of the potential benefit of such strategies.

Methodological considerations

To identify the most recent national school food policy for each of the 30 countries considered, the WHO European database on Nutrition, Obesity and Physical Activity (NOPA, http://data.euro.who.int/nopa/) was initially searched. Where NOPA did not yield any results, the websites of the national ministries, namely those most commonly in charge of school food policy (*e.g.* health, nutrition, education, youth, food and agriculture), were checked, as well as ministerial notifications from Member States to the EC. Both the scientific and the grey literature were used as the third source, followed by information from professional contacts with knowledge of the respective national situation. Finally, Member State representatives on the HLG were asked to confirm source documents and to provide additional information where appropriate.

To standardise data extraction, a subset of the *SNIPE* questionnaire was used (please see Storcksdieck genannt Bonsmann *et al*. 2014 for the questionnaire subset). Extracted data were checked by HLG members and any requested amendments were integrated before computing frequency statistics.

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Conflict of interest

The author has no conflict of interest to disclose.

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